

AMENDMENTS TO THE CLAIMS

1. (Currently amended) Apparatus for removing particles from the surface of a substrate, comprising:

~~a moving chuck, which is configured to receive the substrate and to move the substrate within a processing chamber;~~

C1 a particle localization unit, which is adapted to scan the surface ~~as~~ of the substrate is ~~moved by the chuck~~ in the processing chamber, in order to determine locations of particles on the surface; and

an optical arm, which is adapted to direct a beam of electromagnetic energy onto the surface of the substrate while the substrate is ~~mounted on the chuck within~~ in the processing chamber, causing the particles to be dislodged from the surface; ~~and~~

a moving chuck, which is configured to receive the substrate and to move the substrate within the processing chamber relative to the particle localization unit so as to cause the particle location unit to scan the surface of the substrate, and wherein the chuck is operative to position the substrate relative to the optical arm so as to cause the beam to impinge upon the locations of the particles on the surface that are determined by the particle localization unit.

2. (Canceled)

3. (Previously amended) Apparatus according to claim 1, wherein the optical arm is adapted to rotate about a base thereof so as to scan the beam according to the particle locations.

4. (Canceled)

5. (Original) Apparatus according to claim 1, wherein the electromagnetic energy comprises laser energy.

6. (Original) Apparatus according to claim 5, and comprising a laser module adapted to generate the laser energy and a radiation guide coupled from the laser module to the optical arm by so as to supply the beam of electromagnetic energy thereto.

7. (Original) Apparatus according to claim 6, wherein the laser module comprises a multi-wavelength laser module, which is adapted to supply the electromagnetic energy at a plurality of wavelengths.

8. (Original) Apparatus according to claim 6, wherein the laser energy comprises infrared radiation.

9. (Original) Apparatus according to claim 6, wherein the laser module comprises an Optical Parametric Oscillator (O.P.O.) which is tunable to match the energies required to remove a specific type of contaminant from the surface.

10. (Original) Apparatus according to claim 6, wherein the laser energy is Er:YAG laser energy.

11. (Original) Apparatus according to claim 6, wherein the laser energy is CO₂ laser energy.

12. (Original) Apparatus according to claim 1, wherein the optical arm comprises a channel for conveying a vapor to the surface of the substrate.

13. (Original) Apparatus according to claim 12, wherein and the channel terminates in a nozzle adjacent to the substrate surface.

14. (Original) Apparatus according to claim 1, wherein the optical arm comprises an outlet channel, which is adapted to be coupled to a suction system.

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15. (Original) Apparatus according to claim 14, wherein the outlet channel comprises a suction nozzle adjacent to the substrate surface.

16. (Original) Apparatus according to claim 15, wherein the suction nozzle has an aperture of approximately 0.5 to 3 cm.

17. (Original) Apparatus according to claim 15, wherein suction nozzle is held no more than 4 cm above the substrate surface.

18. (Original) Apparatus according to claim 17, wherein the suction nozzle is placed approximately 2 cm above the substrate surface.

19. (Previously amended) Apparatus according to claim 1, wherein the chuck is adapted to rotate in a plane of the substrate about a central axis thereof.

20. (Withdrawn)

21. (Original) Apparatus according to claim 1, wherein the arm is adapted to rotate about a base thereof in a plane parallel to the substrate.

22. (Original) Apparatus, according to claim 1, wherein the substrate comprises a semiconductor wafer.

23-33. (Canceled)

34-51. (Withdrawn)
